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ABSTRACT

In a research note to a nine-volume, six-state study of the impact of school finance reform on minorities and the poor, the author examines methodological issues involved in using statistics to measure the distribution of local fiscal capacity among school districts with different income and ethnic compositions. Using Texas as an example, the author first reviews the use of statistical analysis in Rodriguez v. San Antonio Independent School District. Then he discusses a multiple regression model developed by William Clune III to determine the distribution of local fiscal capacity among different income strata and applies the model to the Texas school finance system. The model is applied particularly to Mexican American students because they are concentrated to a high degree in districts with low property tax bases. Clune's methodology, suggests the author, may be applicable to court arguments about the effects of wealth discrimination on poor and minority students. (Author/RW)

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MINORITIES, THE POOR AND SCHOOL FINANCE REFORM

VOL. 7: STATISTICAL NOTE ON A NEW CASE FOR DISCRIMINATION IN TEXAS SCHOOL FINANCE

Robert Brischetto

EA 014 376

A Report Submitted to the National Institute of Education
U.S. Department of Health, Education and Welfare
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JULY, 1979

INTERCULTURAL DEVELOPMENT RESEARCH ASSOCIATION

MINORITIES, THE POOR AND SCHOOL FINANCE REFORM

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PREFACE

The Intercultural Development Research Association (IDRA) with support from the National Institute of Education (Contract No. 400-76-0136) undertook a study of the impact of recent school finance reforms on poor and minority students in six states--California, Colorado, Florida, Michigan, New Mexico and Texas. The objective of the study was to track the distribution of dollars for education among districts with pupils of different ethnic and income groups from before to after "reform" legislation was implemented. The ultimate goal of this research was to inform policy makers on the state and federal levels about whether and to what extent legislative reforms of the first half of the 1970's have redistributed education resources in a manner which is more equitable for poor and minority students so that future policies might be measured by such a standard of equity.

The research, while sponsored by IDRA of San Antonio, was a cooperative effort with several school finance study projects originated by the National Urban Coalition (NUC) of Washington, D.C. Robert Bothwell, former director of the Education Finance Division of NUC, proposed this cooperative research effort. The purpose of the joint research effort was not only to study the impact of school finance reforms on poor and minority pupils, but also to provide the school finance reform projects with the data and statistical tools necessary to continue to monitor school finance legislation in their respective states well beyond the termination of this study.

The findings of the study are reported in nine volumes. This report (Volume 7) is a research note which examines the distribution of local fiscal capacity among districts of different income and ethnic composition in Texas. Texas was focused on because of the high degree of isolation of Mexican American students and the low property tax base of districts with high concentrations of Mexican Americans. The methodology is presented which might be adopted in court arguments showing wealth discrimination as it impinges on poor and minority children.

The main report, which compares the results in the six states, is Volume 1: An Impact Study of Six States.

Volumes 2-6 are individual state reports on Texas, California, Florida, New Mexico and Colorado, respectively. These reports give an historical overview of school finance legislation, a detailed description of the reform, and an in-depth analysis of the outcomes of school finance legislation before and after reform in each state with particular concern for the distribution of funding as it affects districts with poor and minority students.

Volumes 8: A History of School Finance Reform Litigation and the Interests of Urban, Poor and Minority Children gives an overview of school finance reform litigation in the context of other educational reform litigation efforts in behalf of poor and minority children.

Volume 9: Summary and Conclusions highlights the study's major findings and discusses their implications for future legislation in other states.

Robert Brischetto
Study Director
July, 1979

INTRODUCTION

During the past decade there has been a remarkable proliferation of social science data and quantitative methodology in litigation. The school finance challenges filed in almost every state are notable cases in point. In this volume, we revisit the 1973 Supreme Court ruling in Rodriguez v. San Antonio Independent School District,[1] which refused to declare the Texas school finance system unconstitutional, and raise some questions about the conclusions derived from the statistical evidence presented in the case. The fact that the decision was close (5-4) and the statistical evidence mixed should give pause concerning both the power and the potential for abuse of quantitative analysis in the judicial process and ultimately in the shaping of public policy vis-a-vis our 53 million public school students.

This note also presents an adaptation of a multiple regression model developed by William Clune III[2] for determining the distribution of local fiscal capacity among different income strata. The model is applied to the Texas school finance system to identify the extent to which pupils of different ethnic and income groups are advantaged or disadvantaged with respect to their local district fundraising capacity as determined by both personal and property wealth.

THE RODRIGUEZ EVIDENCE REVISITED

Since my concern is with the quantitative evidence on which the opinion of the Supreme Court relied, the legal theory behind the decision will not be explored at length. The law journals are replete with discussions of the conceptual issues involved in the Rodriguez decision. However, some conceptual definitions are necessary prerequisites to understanding the basis for the Court's ruling on facts in the case.

The crux of the ruling was that plaintiffs failed to show to the Court that the Texas system of funding education violated the equal protection clause of the U.S. Constitution.[3] In arriving at their opinion, the Court drew the empirical battle lines on the question of whether a clearly identifiable "suspect" class was injured by the Texas system of school finance.

One way of delimiting the injured class is according to district wealth. The Texas system might be guilty of district wealth discrimination against those children, for example, who are in districts below the state average in assessed valuation of property.[4] But while the facts presented by the plaintiffs were admitted by the Court to show discrimination of this kind, the Court majority found that such "a large, diverse, and amorphous class, unified only by the common factor of residence in districts that happen to have less taxable wealth than other districts" did not meet the criteria for a "suspect classification."[5] In Justice Powell's majority opinion,

> The system of alleged discrimination and the class it defines have none of the traditional indicia of suspectness: the class is not saddled with such disabilities, or subjected to such a history of purposeful unequal treatment, or relegated to such a position of political powerlessness as to command extraordinary position from the majoritarian political process.[6]

A second definition of the injured class--one which might meet the criteria mentioned by Justice Powell would be "poor" persons whose incomes fall below some identifiable level of poverty. But, as the Court pointed out, no evidence was presented by plaintiffs to indicate that the Texas system of financing education discriminates against an "indigent class." Attempting to address the empirical question of the relationship between district property values and personal income, the Court turned to a correlational study which alleged that in Connecticut, poor children were not clustered in poor school districts.[7] The study has since been discredited for its misuse of correlational analysis.[8] Grubb and Michelson's as well as my own analyses in other states have shown that the simple correlation between personal income and district property wealth is more often direct than inverse, but the picture is not a completely consistent one from one state to another.[9] In Texas, the simple Pearson correlation between district property wealth and percent of children from poverty families is approximately zero.[10]

Another way of delineating the disadvantaged class would be to identify a student's or district's average family income relative to others--i.e., comparative discrimination on the basis of income.[11] Evidence for the existence of comparative discrimination was presented by the plaintiffs in an affidavit by Professor Joel Burke.[12] Since

the District Court had relied so heavily on Berke's data declaring the Texas system unconstitutional, Justice Powell makes a painstaking effort to discredit the study. The controversial data in Berke's testimony is expressed below in Table 1, which is also reproduced in the Supreme Court's majority opinion. In his majority opinion, Justice Powell offers the following critique of the study:[13]

> Professor Berke's affidavit is based on a survey of approximately 10% of the school districts in Texas. His findings, set out in the margin, show only that the wealthiest few districts in the sample have the highest median family incomes and spend the most on education, and that the several poorest districts have the lowest family incomes and devote the least amount of money to education. For the remainder of the districts--96 districts comprising almost 90% of the sample--the correlation is inverted, i.e., the districts that spend next to the most money on education are populated by families having next to the lowest median family incomes while the districts spending the least have the highest median family incomes. It is evident that, even if the conceptual questions were answered favorably to appellees, no factual basis exists upon which to found a claim of comparative wealth discrimination.

But it should be noted for the record that the Court was divided in its interpretation of the empirical data presented by Berke. In a dissenting opinion, Justice Thurgood Marshall makes the following points while noting that "the Court goes to great lengths to discredit the data upon which the District Court relied":[14]

1. ... the Court offers absolutely no data--which it cannot on this record--concerning the distribution of poor people in Texas to refute the (Berke) data;

2. ...the Court fails to note that the four poorest districts in the sample had over 50,000 students which constituted 10% of the students in the entire sample;

3. ...the data introduced by appellees went unchallenged in the District Court. The majority's willingness to permit appellants to litigate the correctness of that data for the first time before this tribunal--where

TABLE 1

MEDIAN FAMILY INCOME, PERCENT MINORITY PUPILS, AND STATE-LOCAL REVENUE PER PUPIL, BY EQUALIZED PROPERTY VALUE PER PUPIL IN TEXAS DISTRICTS*

Market Value of Taxable Property Per Pupil	Median Family Income From 1960	Percent Minority Pupils	State & Local Revenues Per Pupil
Above $100,000 (10 Districts)	$5,900	8%	$815
$100,000 - $50,000 (26 Districts)	$4,425	32%	$544
$50,000 - $30,000 (30 Districts)	$4,900	23%	$483
$30,000 - $10,000 (40 Districts)	$5,050	31%	$462
Below $10,000 (4 Districts)	$3,325	79%	$305

*Source: 411 US 1 (1973) at 11.

effective response by appellees is impossible--is both unfair and judicially unsound.

4. ...the District Court found that in Texas the poor and minority group members tend to live in property poor districts, suggesting discrimination on the basis of both personal wealth and race.

This last point by Justice Marshall, that discrimination on the basis of personal wealth or race (or ethnicity, for that matter) might constitute the type of "suspect class" which would require strict scrutiny, was not fully explored by plaintiffs in their Rodriguez arguments. Echoing the fiscal neutrality complaint developed in Serrano, the plaintiffs' attorneys overlooked a group that might have met all the traditional criteria of suspectness--Mexican Americans. In the remainder of this research note, I shall attempt to measure differences in local fiscal capacity and to relate these variations to the ethnicity and family income of pupils in Texas school districts.

CLUNE'S MEASURE OF WEALTH DISCRIMINATION

Since the Rodriguez deliberations, considerable new data have emerged which were not available to plaintiffs when the case was being argued. For example, census data by school district boundaries for all but very small school districts were made available for the first time in 1973, thus permitting the inclusion of personal income as a variable in the analysis of school finance systems.[15] William Clune III utilized this new data source in developing a method for measuring the amount of wealth discrimination against low-income persons in Illinois.[16] The method is simple and straight-forward and should be explicable to judges or the educated layperson.

Clune first develops a combined measure of a district's wealth or ability to pay and displays the distribution of wealth advantage or

deficit among various income classes. Clune concludes from his analysis that "(a) firm factual basis for a finding of wealth suspectness offers a substantial incentive for bringing the Rodriguez case before the Court again."[17] In the analyses which follow, I shall replicate Clune's model (with some needed modifications) utilizing Texas data in an effort to show how the facts might have been presented by plaintiffs in the Rodriguez case had the data been available then, and how future cases might present the facts on wealth discrimination and its impact on poor and minority children.

Toward a More Complete Measure of Wealth

The most commonly accepted measure of a district's wealth or ability to pay has been the base on which the locality assesses its tax. For the ad valorem property tax, this is real property.[18] But the tax base may not be an accurate measure of the full local fiscal capacity to pay. The ability to pay a tax is a function of income as well as capital.[19] Since taxes are paid out of income, it is reasonable to consider income when developing a truly valid measure of local ability to pay for education. Of course, other factors such as municipal overburden might be included in a more complete measure of ability to pay, but the conceptual and empirical problems of measuring such factors preclude them from the present analysis.[20]

A method for combining personal income and property wealth into a single index of wealth was explained by John Akin.[21]

Through the use of a linear multiple regression equation involving income and property wealth as predictors of local revenue per pupil, Akin estimates the revenue-producing impact of these two types of wealth on the average[22] statewide. Thus, for every extra dollar of a particular type of wealth, an estimate can be made from the regression coefficients of how much additional tax revenues could be raised. The linear regression equation for Texas is shown in Table 2. An equation with market value of property as the only predictor is also shown for comparison purposes. From the R^2 we see that property value alone explains 50 percent of the variance in local revenue; adding mean family income improves our explanatory ability another 14 percent.

Now that an average profile has been constructed, the next step involves calculating the expected spending level of each district in the state from the wealth predictors. This is done by multiplying the amount of each type of district wealth by the amount of revenue each dollar is supposed to produce. The regression equation for estimating expected local revenue levels for each district is as follows:

$$\hat{y} = a + B_1X_1 + B_2X_2$$

where:

$\hat{y}$ = expected local revenue per pupil for education

X_1 = district property value per pupil

X_2 = aggregate personal income per family in the district[23]

a = constant in the regression equation

The coefficients B_1 and B_2 were obtained from the multiple

TABLE 2

LINEAR REGRESSION EQUATION FOR FISCAL CAPACITY OF TEXAS SCHOOL DISTRICTS WITH LOCAL REVENUE PER PUPIL AS DEPENDENT VARIABLE, 1974-75

Independent Variable	Regression Coefficient	Standardized Regression Coefficient	F-Value	Signif. Level
Single-Factor Index Model				
(Constant)	$353.29			
Market Value Per Pupil	.002776	.7087	1071.69	.0000
				R^2=.50
Combined Index Model				
(Constant)	-$ 27.60			
Market Value Per Pupil	.002653	.6773	1343.26	.0000
Mean Family Income	.039195	.3728	407.02	.0000
Multiple Correlation Coefficient (R)			=.8002	R^2=.64
Significance Level of F-ratio			=.0000	

Variable	Pupil Mean
Local Revenue Per Pupil (1974-5)	$ 523.71
Market Value Per Pupil (1974)	61,389.23
Mean Family Income (1970)	9,910.80

regression analysis described in Table 2 above predicting actual local revenue for the average pupil. These coefficients can be thought of as the average tax rates indicating the average percent of each dollar of personal and property wealth that is raised for education.

Indentifying the Injured Class and the Extent of Injury

Once the estimated local spending level was calculated for each school district in Texas from the combined measure of wealth, a standard was needed against which to measure a district's advantage or disadvantage in ability to raise local revenue. Clune draws from the theory of fiscal neutrality to suggest that the state make "available to each district, through revenue from state taxes, the average tax base per pupil of the state."[24] The children who are injured by the state's refusal to make available to every district the average taxable wealth of the entire state are those living in districts below the state average in wealth. Thus, the state average local spending level per pupil was used by Clune and in the present analysis as a norm for computing a district's estimated local spending deficit or advantage on account of wealth. This calculation was made for each district with the following formula:

$$\text{Local Spending Advantage or Deficit of a District Due to Wealth} = \left[\text{Estimated Local Spending Level in the District Predicted from Wealth}\right] - \left[\text{Statewide Ave. Local Spending Per Pupil}\right]$$

The final step involves examining the wealth advantage or deficit of different sub-groups within the state. Clune estimates the per pupil deficit or advantage by fifteen income classes in

Illinois. The per pupil deficit or advantage due to wealth alone for the same and for poor and non-poor pupils statewide in Texas is shown in Table 3.[25]

Low income families in Texas are clearly at a disadvantage with respect to wealth measured both by the combined index of property and personal wealth (which is not surprising), and to a lesser extent with respect to district wealth. A shift from wealth advantage to wealth deficit occurs near the $8,000 point on the family income continuum. (The median family income in Texas was $8,490 in 1969.) The income class with the greatest combined wealth disadvantage earns between $1,000 and $2,000 annual income. That class faces a $61 per pupil deficit in local spending due to its personal and property wealth. By contrast, the highest income class -- of $50,000 or more annual income -- experiences a $98 per pupil advantage in the ability to raise local revenue in light of its property and personal wealth.

On the average statewide, pupils from poverty families are at a $59 deficit with respect to local spending due to the combined measure of wealth and at an $11 deficit due to market value of property only. Non-poor pupils are at a $16 per pupil advantage in anticipated local revenue from personal and property wealth and at a $3 advantage with respect to market value of property alone.

Critique of the Clune Analysis and an Alternative

One problem with Clune's method of displaying the per pupil wealth advantage or deficit by income class estimated from a

TABLE 3

PER PUPIL LOCAL DEFICIT OR ADVANTAGE DUE TO WEALTH BY INCOME CLASS IN TEXAS SCHOOLS: 1974-75

Family Income Class	Two-Factor Index (Inc./ADA, MV/ADA)	Single Factor Index (MV/ADA)	Percent of all Families
Under 1,000	-$ 47.99	-$ 7.34	3%
1,000 - 1,999	- 61.10	- 7.80	4
2,000 - 2,999	- 57.83	- 8.23	6
3,000 - 3,999	- 48.35	- 6.88	6
4,000 - 4,999	- 39.90	- 8.12	6
5,000 - 5,999	- 30.61	- 6.54	7
6,000 - 6,999	- 21.63	- 4.71	7
7,000 - 7,999	- 11.21	- 1.04	7
8,000 - 8,999	1.84	4.63	7
9,000 - 9,999	8.86	3.60	6
10,000 -11,999	20.84	5.64	12
12,000 -14,999	37.58	2.32	12
15,000 -24,999	54.27	6.08	13
25,000 -49,999	76.74	13.61	3
50,000 +	97.76	10.91	1
			100%
Statewide Average By Income Group			
Poor	- 58.85	- 10.3[illegible]	21%
Non-Poor	16.02	2.98	79
			100%

combined measure of income and property wealth is that the correlation between income level and the combined measure of wealth is assured because it is built in. To some extent, income is being correlated with itself since it is included in the measure of wealth used to estimate the local spending advantage or deficit. This is entirely acceptable for estimating where on the income continuum a change occurs from advantage to disadvantage, and for showing policymakers the magnitude of the impact of such a measure on different income classes. But to conclude the correlation demonstrates that low income persons show a deficit in local spending due in part to their wealth (i.e., income) disadvantage is a tautology. One way around this problem would be to present the per pupil advantage or deficit of each income class estimated from property wealth alone as shown in Table 3. The magnitude of the disparity in local spending is not as great, however, and may not be sufficiently convincing in a court of law.

Our interest in the impact of school finance systems on minority pupil populations avoids the problem of a built-in correlation. Utilizing the same method of estimating the ability to raise local revenue, the per pupil deficit or advantage is shown in Table 4 by categories of districts with different percent Mexican American enrollment. (Note that the categories of percent Mexican American are discrete divisions of districts, not statewide classes as in the income categories in Table 3.) Again, the deficits or advantages are estimated in two ways: from a single-factor index of district market value of property per pupil and

TABLE 4

PER PUPIL DEFICIT OR ADVANTAGE DUE TO WEALTH BY PERCENT MEXICAN AMERICAN PUPIL ENROLLMENT IN TEXAS SCHOOL DISTRICTS, 1974-75

Percent Mexican Americans Enrolled	Two-Factor Index (MV/ADA, Family Income)	Single-Factor Index (MV/ADA)	Percent of MA Pupils	Percent of all Pupils
0- 9.9	$ 23.79	$ .67	5%	37%
10-19.9	59.24	17.83	17	28
20-29.9	34.89	44.66	10	10
30-39.9	97.11	149.49	5	3
40-49.9	-72.03	-3.12	3	2
50-59.9	-70.89	-40.68	13	5
60-69.9	-147.59	-85.63	16	6
70-79.9	-150.39	-53.06	8	2
80-89.9	-229.88	-88.72	12	3
90-100	-255.43	-107.33	11	3
			100%	99%
Statewide Average By Ethnic Group				
Anglos	$ 31.34	$17.67		61%
Blacks	6.42	4.38		15
Mexican Americans	-83.27	-24.41		24
				100%

from a combined index of both property wealth and personal income.

The disparities in local spending ability are far more striking by percent Mexican Americans enrolled than by income classes.[26] Table 4 shows that at the 40-50 percent Mexican American enrollment level, the wealth disadvantage begins and increases to an average deficit of $255 per pupil in local spending ability in districts of more than 90 percent Mexican American enrollment. This amount is about a $5,100 per year deficit for a classroom of 20 children and about $7,600 for a classroom of 30, a deficit which if made up could increase the average teacher's salary by almost 50 percent. Making up this deficit alone should provide sufficient incentive to attract more qualified teachers to these needy districts.

Statewide average estimates of the local advantage or deficit due to wealth are shown for each ethnic group in Table 4. The greatest gap is between Anglos and Mexican Americans in the state. While Anglos experience a $31 per pupil advantage in local revenue due to the combined measure of wealth, Mexican Americans face a deficit of $83 per pupil. Blacks are at a $6 advantage on the average statewide.

The combined index of personal and property wealth produced the greatest disparity in estimates of local ability to pay for education, but the estimates using the single-factor index of market value of property per pupil also indicate a high degree of inequality in ability to pay. Mexican American pupils are disadvantaged both because of the family income of taxpayers in their districts and because they live in property-poor districts. What is amazing is the great extent of their deficit in local ability

to pay for education. From Table 4 we can see that almost all members of the suspect class (Mexican Americans) are also members of the injured class (those less than the state average in local ability to pay). If we examine the distribution of the Mexican American pupil population among districts of different ethnic concentrations, we find that 63 percent of all Mexican American pupils live in districts which experience an average deficit in their ability to raise local revenue because of personal and property wealth disadvantages. By contrast, 78 percent of all pupils in Texas schools live in districts which, on the average, are at a wealth advantage. The yoke of wealth disadvantage in local ability to pay is clearly carried more by poor Mexican American pupils than by members of the dominant group.

Recommendations for a Cause of Action

Clune suggests going back into court with low-income children as plaintiffs. There are a number of compelling reasons why a suit brought in behalf of Mexican American children might fare better in Texas than a suit brought for poor children only.

First, the data strongly support the argument that Mexican American pupils are disadvantaged because of the wealth of the districts in which they reside. The same evidence cannot be found for Black pupils, and is not overwhelming for low-income pupils in general.

Second, the suspect class is much more easily circumscribed for Mexican American children than for poor children. A definition

of what constitutes "poverty" status has never been adequately agreed upon in the courts.[27] The identity of the minority is much clearer when Mexican Americans are singled out as a suspect class than when poor children in general are classified as suspect.

Third, as Mr. Justice Marshall noted in his dissenting opinion in Rodriguez, the same burden is to be considered more serious on an ethnic or racial minority than on the poor because the poor are less clearly the victims of historical discrimination and isolation, have more political power, and are not individually consigned to permanent membership in the minority status.[28]

Finally, in addition to showing evidence of wealth discrimination against poor Mexican American children, proof of other types of discrimination are possible: the lack of an adequate bilingual education program funded by the state,[29] insufficient funding in some predominately Mexican American districts to provide even a minimally adequate education, and ethnic exclusion in the funding of education due to residential patterns of exclusion.

Applications in School Finance

In addition to providing evidence of wealth discrimination as it bears on poor and minority children, the combined index of wealth can be directly applied to a remedy in developing a formula for distributing state aid. What the two-factor formula produces is the per pupil advantage or deficit in ability to raise local revenue that is due to a district's personal and property wealth. This may prove very useful in providing an empirical indicator of how a particular minority or income group would fare if a state aid equalization formula were keyed to district and/or personal wealth.

What the formula does not do is estimate the amount of state aid that may be required to compensate for differences in educational needs and costs. As these data become available, indicators of particular pupil needs, cost of living adjustments, cost of education differences, municipal overburden indices, etc., may be added as predictors in the analysis model to satisfy a more comprehensive definition of equity in funding education.

FOOTNOTES

1. San Antonio ISD v. Rodriguez 411 U.S. 1 (1973).

2. William H. Clune III, "Wealth Discrimination in School Finance," Northwestern University Law Review 68 (Sept.-Oct., 1973): pp. 651-695.

3. The constitutionality test was two-tiered. First, a determination was made as to whether more careful scrutiny was to be used. A law would entail stricter scrutiny if it involved the violation of a fundamental right (such as the right to trial by jury or the right to vote) or it discriminated against a "suspect" class (a class of persons which is invidiously singled out according to their race, ethnicity, indigence or some other characteristic). If strict scrutiny had been called for, the Court admitted that the Texas school finance system would not have passed constitutional muster. But the Court could not find education guaranteed as a fundamental right either explicitly or implicitly in the federal constitution and no injured group could be found which would qualify as a "suspect" class. Thus, since "strict scrutiny" was not warranted, a second test was applied to determine whether the system of funding education was rationally related to some legitimate state purpose. The Texas system was found to be rational in that it guaranteed at least a minimally adequate education to all its students, according to the Court.

4. 411 U.S. 1, Opinion, p. 24.

5. Ibid.

6. Ibid.

7. Note, "A Statistical Analysis of the School Finance Decisions: On Winning Battles and Losing Wars," 81 Yale Law Journal (1972): pp. 1328-1329.

8. W. Norton Grubb and Stephen Michelson, "Public School Finance in a Post-Serrano World," Harvard Civil Rights-Civil Liberties Law Review 8 (May): pp. 550-570.

9. For a study of California, Colorado, Florida, Michigan, New Mexico and Texas, see: Robert Brischetto and David Vaughan, Minorities, the Poor and School Finance Reform, Vol. 1: An Impact Study of Six States, San Antonio, Texas: The Intercultural Development Research Association, 1979. More detailed analyses on each state are found in Vols, 2-6.

10. The correlation is actually .08, which is not statistically significant beyond the .01 level.

11. 411 U.S. 1, Opinion, pp. 21-22.

12. Rodriguez v. San Antonio ISD 337 F Supp 280 (W.D. Texas. 1971), rev'd, 411 U.S. 1 (1973), plaintiffs' affidavit.

13. 411 U.S. 1, Opinion, pp. 22-23.

14. 411 U.S. 1, Dissent (A), pp. 25-27 and note 56.

15. The mapping and aggregation of census data to coincide with school district boundaries was initiated by the National Center for Educational Statistics in cooperation with the U.S. Bureau of the Census. Data are now available from Fifth Count Census Tapes for 1970 according to 1974-75 school district boundaries. Some 17 states also keep their own, more updated, estimates of income by school district boundaries.

16. William H. Clune III, "Wealth Discrimination in School Finance."

17. Ibid., p. 693.

18. This is frequently equalized by the ratio of assessed to full market value in order to make valid comparisons of districts with different assessment practices. Although it seems that Clune has used unequalized assessed valuation in his analysis, I use equalized assessed valuation in this study since it most nearly indicates the true property wealth of a district.

19. Clune, "Wealth Discrimination in School Finance," p. 682.

20. For a discussion of these problems, see: Ibid., pp. 689-690.

21. J.S. Akin, Estimation of Fiscal Capacity, unpublished doctoral dissertation at the University of Michigan, Ann Arbor, 1971. See also: J.S. Akin, "An Improved Method for Estimating Local Fiscal Capacity," Discussion Paper No. 183-73, Institute for Research on Poverty, Discussion Paper Series, University of Wisconsin (Nov., 1973).

22. The pupil average was used in our equation, whereas in Clune's analysis, apparently unweighted district average was used. The justification for weighting the regression equation by the number of pupils is that the impact of wealth on pupils rather than districts was the desired end product.

23. Family income was used in our analysis in lieu of Clune's income per pupil estimate. Since families are the taxpaying units, by and large, the family's personal wealth was believed to be the best indicator of ability to pay. Further analysis comparing estimates of income per pupil, income per capita and income per family supports this assumption. The data on family income were taken from the Fifth Count Tapes of the 1970 decennial census and aggregated by 1974-75 school district

boundaries by the National Center for Educational Statistics. Income data were made available for all school districts of more than 300 pupils. Thus, some small districts have been dropped from this analysis altogether. Fortunately, these districts contain only 2.4 percent of the total student enrollment in Texas.

24. Clune, "Wealth Discrimination in School Finance," p. 658.

25. For each district, the percentage of families in a particular income class was weighted by the number of pupils and also by the district's per pupil spending deficit or advantage, yielding the total dollar spending deficit or advantage for that income class in that district. This amount was aggregated across all districts for each income class and divided by the total number of pupils in that income class statewide.

26. Part of the difference is due to the fact that district boundaries are ignored in the Clune approach to presenting income classes, whereas the categories of percent Mexican American enrollment presented here are groupings of districts. We also know that district wealth is more strongly correlated with percent Mexican American enrollment (-.12) than with personal income (.08). Both manners of displaying the relationship are methodologically sound as long as it is made clear just what the classes represent.

27. However, Justice Powell in his Rodriquez opinion seems to accept the federal census bureau's definition of poverty as identified by the Orshanski Index. See: 411 U.S. 1, Opinion, pp. 18-21.

28. 411 U.S. 1, Opinion, pp. 21-22.

29. A reintervention in U.S. v. Texas is being argued before federal district court in Tyler, Texas, to determine whether the bilingual educational needs of children of limited English-speaking ability are being met under the state's bilingual education program.